



Warren County, NC Request for Proposals (RFP) Broadband RFP

Citizen Feedback

Slow or nonexistent internet has posed a problem for many areas of Warren County. **Dr. Cosmos George of the Axtell community**, who serves as president of the local branch of the NAACP, highlighted the organization's concerns that many of the county's students cannot do their homework at home without broadband service. He added that he mentors area students, but cannot help them as much as he needs to due to problems logging on to the internet.¹

Nela Horton of Lake Gaston's River Bend subdivision, a representative of a volunteer committee of community residents trying to obtain internet access for the area, presented Freddoso with a petition of 250 signatures of people who want broadband service. She described the frustration of not being able to work from home due to slow internet, adding that reliable internet service is important not only for full-time lake residents who own their homes, but also for people renting homes for a portion of the year.²

Mike Nagorsky of Hillside Drive moved to Warren County from Pittsburgh, Pa., and also had to resort to using satellite internet service. He telecommutes, but with current internet capabilities in his area, cannot carry on the online functions, including communications, that are essential for his work.

"I may have to sell my dream house because I can't do my work from home," Nagorsky said.³

Timeline

- January 7th, 2020 Request for Proposal issued by Warren County
- January 21st, 2020 Warren County RFP overview meeting (web conference)
- January 30th, 2020 Questions from vendors due
- February 6th, 2020 Answers to vendor questions posted
- March 4th, 2020 RFP responses due by 5 pm EST

¹ http://www.lakegastongazette-observer.com/news/article_a61cf8d0-da17-11e9-88d8-8b75ba27d537.html

² http://www.lakegastongazette-observer.com/news/article_a61cf8d0-da17-11e9-88d8-8b75ba27d537.html

³ http://www.lakegastongazette-observer.com/news/article_a61cf8d0-da17-11e9-88d8-8b75ba27d537.html

Warren County History and Demographics

Warren County is a county located in the northeastern Piedmont region of the U.S. state of North Carolina, on the northern border with Virginia.

The county was formed in 1779 from the northern half of Bute County. It was named for Joseph Warren of Massachusetts, a physician and general in the American Revolutionary War, who was killed at the Battle of Bunker Hill. Warren County was developed as tobacco and cotton farming area. Its county seat of Warrenton became a center of commerce and was one of the wealthiest towns in the state from 1840 to 1860. Many planters built fine homes there.

In the later nineteenth century, the county developed textile mills. In 1881, parts of Warren County, Franklin County, and Granville County were combined to form Vance County. In the late nineteenth and early twentieth centuries, Warren County's continued reliance on agriculture slowed its development. Many residents migrated to cities for work.

US Census Bureau and North Carolina Department of Commerce key facts about Warren County, include:

Residential:

- Population (July 1, 2017): 19,883
- Housing Units (July 1, 2017): 11,992
- Owner occupied housing rate: 70%
- Median value of owner-occupied housing units: \$95,100
- 2017 Building Permits: 41
- Households (2012-2016): 7,753
- Average Size of Household: 2.49
- Median Household Income (2016 dollars-SAIPE*): \$36,285
- Population per square mile: 48.9
- Land area in square miles: 428.46

*Small area income and poverty estimates (US Census Bureau)

Business:

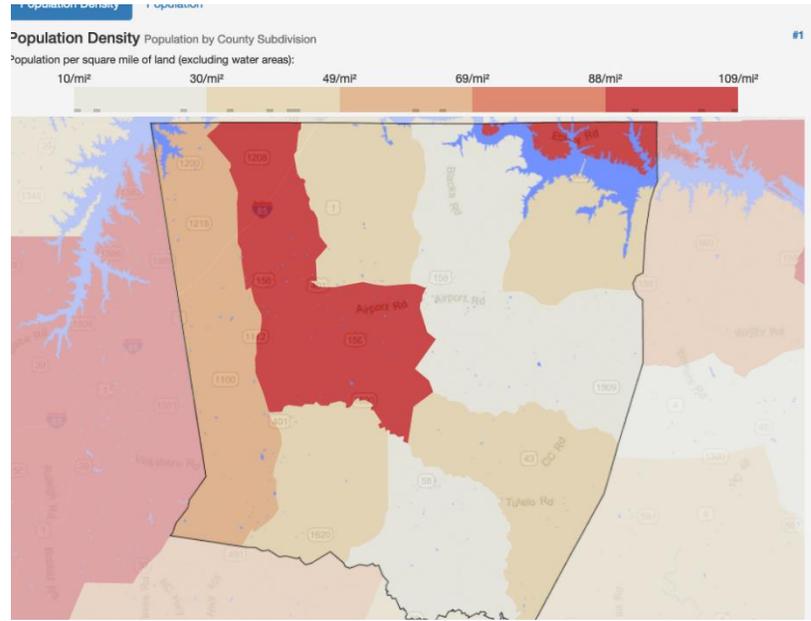
- Total Private Industry: 260
- Total self-employed: 640

Population Density Map:

<https://statisticalatlas.com/county/North-Carolina/Warren-County/Population>

Density by Township:

Warren County is comprised of 12 townships with the following population densities:



Northwest Warren County

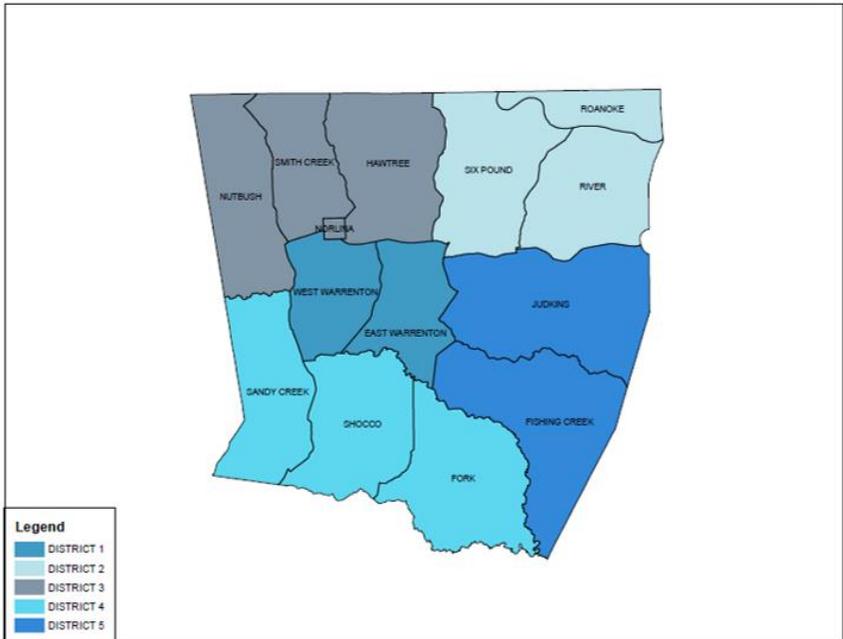
- Nutbush Township-64.8 residents per square mile (north west corner Warren County)
- Smith Creek Township- 92.9 residents per square mile (north of Warrenton)
- Hawtree Township – 33.6 residents per square mile (north central Warren County)

Northeast Warren County

- Sixpound Township- 26.1 residents per square mile (north central Warren County)
- River Township-39.0 residents per square mile (north east Warren County)
- Roanoke Township –108 residents per square mile (north east Warren County)

Central Warren County

- Warrenton Township – 103.1 residents per square mile (center of Warren County)
- Judkins Township- 10.3 residents per square mile (west central Warren County)



Southwest Warren County

- Sandy Creek Township-60.3 residents per square mile (south west Warren County)
- Shocco Township- 41.9 residents per square mile (south east/south central Warren County)
- Fork Township – 13.5 residents per square mile (south central Warren County)

Southeast Warren County

- Fishing Creek Township- 43.2 residents per square mile (south east Warren County)

1. Project Overview

Warren County Government is issuing this Request for Proposals (RFP) to develop Warren County's next-generation broadband infrastructure. The focus will be to seek and implement solutions needed to meet the technological needs of current and future businesses, public institutions, educational institutions, and local residents. Warren County is seeking network solutions and business models that are innovative, preparing our region for the future while serving the needs of today. Warren County Government seeks opportunities to best use existing public investments in currently underutilized or planned government fiber and broadband assets to provide the maximum benefit to the public.

Vendors or coalitions of vendors are sought to achieve the following goals and objectives:

Goals

1. Create a scalable network solution to foster innovation, drive job creation, stimulate economic growth, and serve new areas of development in the community by providing service for a minimum of twenty (20) years from the date of first operation.
2. Warren County prefers that the aggregation network proposed by the provider/vendor network be fiber based with potential fiber to the premise in the more densely populated areas of the county; however, Warren County will consider **all technologies especially in unserved/underserved lower population density areas of the county**. Hybrid solutions are encouraged.
3. Provide a flexible menu of retail services that improve service to the following eligible service areas:
 - a. Unserved/Underserved areas - Offer new or enhanced service in underserved and unserved areas of the county (Section 1.2.1)
 - b. Key Economic Corridors - Offer enhanced service along key business and high density residential corridors in Warren County's higher residential population areas (including, but not limited to: Warrenton, Norlina, Macon, Lake Gaston areas off County Road 1336 and County Road 1306 and potentially Haliwa-Saponi tribal lands off NC43 and near the Arcola Sawmill) and connects broadband assets that serve remote areas of the county (Section 1.2.2)
 - c. Government Facilities – Offer lit or dark fiber services to meet the administrative and public safety needs of Warren County Government and municipal governments. The county will consider new build lit and dark fiber services. The county will also consider owning its own fiber infrastructure along the route displayed in Map A, Appendix B.
4. Conversations with citizens and citizen surveys have uncovered two significant issues:
 - a. First, K-12 schools are increasingly incorporating a digital curriculum, meaning internet access at home and on long bus rides is essential for maintaining expected academic progress. Parents at several community meetings and members of a previous County Manager's broadband action committee unveiled that many children in Warren County are faced with a lack of home broadband service. The County would like to address this need in three ways:
 - i. Offering affordable broadband options in all parts of the county
 - ii. Creating County sponsored community hotspots at a few gathering spots within the county
 - iii. Working with Warren County School District to explore the possibility of offering mobile broadband solutions on school buses
 - b. The County has several developments in all areas of the County but particularly along Kerr Lake and Lake Gaston that are underserved. These areas have attracted families and individuals who desire to work from home. In fact, over 250 residents have signed a petition seeking better options for broadband service. Respondents should include a plan for outreach to these areas of the county and some immediate (within 12 months of selection) implementation of better broadband solutions for these areas of the County. The residents that signed the petition are listed in appendix F.

1.1 Eligible Service Sectors of this RFP

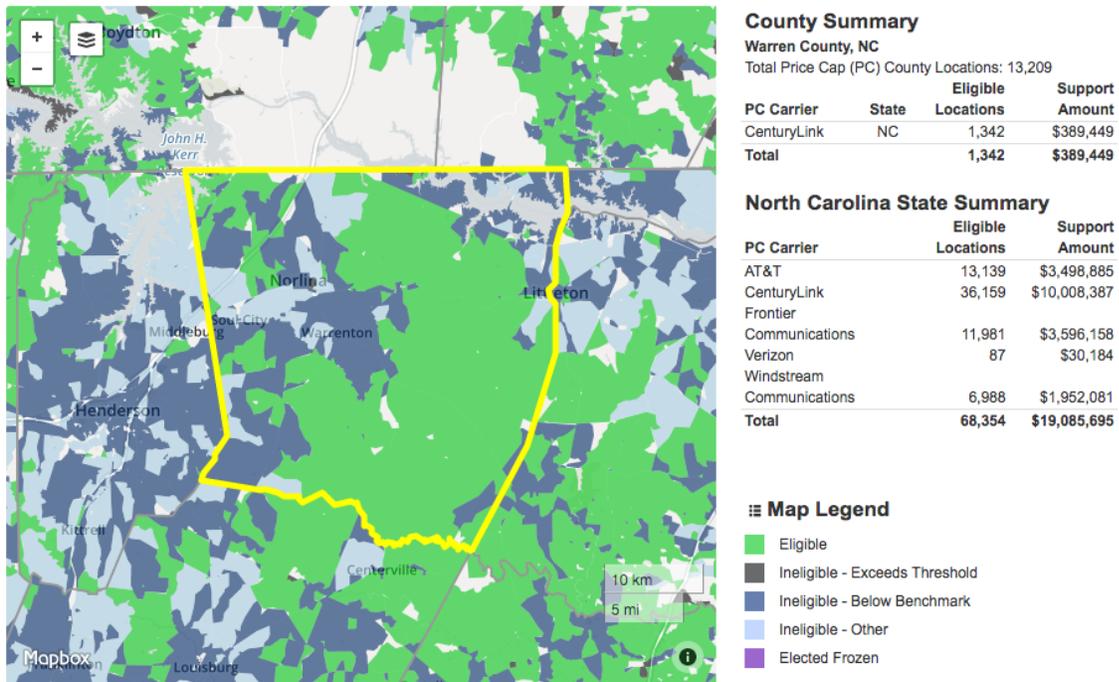
Warren County has identified three sectors in need of new or improved service – 1. Unserved areas (Mapped in section 1.2.1) 2. Higher Population Density areas servicing residents and businesses (mapped in Section 1.2.2), and 3. Government facilities (Map A, Appendix B). A single vendor or multiple vendors may submit proposals to serve all or some of the service areas.

For the first two service sectors listed, unserved areas and higher population density areas the service specifications outlined in section 1.2.3 should be used to guide respondents. For government facilities, the service specifications are outlined in section 1.2.4 which also contains the location of government facilities to be served.

1.2 Service Sector Specifications

1.2.1 Unserved/Underserved Areas Maps

According to the Federal Communications Commission’s (FCC) Connect America Fund map the areas in green in Warren County are underserved according to the FCC’s 2015 connectivity data which defined broadband as 10Mbps download and 1Mbps upload.



This represents 1,342 Price Cap Supported locations in Warren County with \$389,449 of Connect America Fund subsidy available. This represents about 17% of Warren County Households without access to 10Mbps/1Mbps service. Microsoft and Facebook track broadband access speeds via pings to its servers, a much more granular approach. Estimates range as high as 30% (6000 people or approximately 2340 households) of Warren County’s population (translating to “without access to 25Mbps/3Mbps service”)⁴.

The FCC has publicly stated and many states are now recognizing the FCC availability overstates broadband availability in Warren County and across the country.

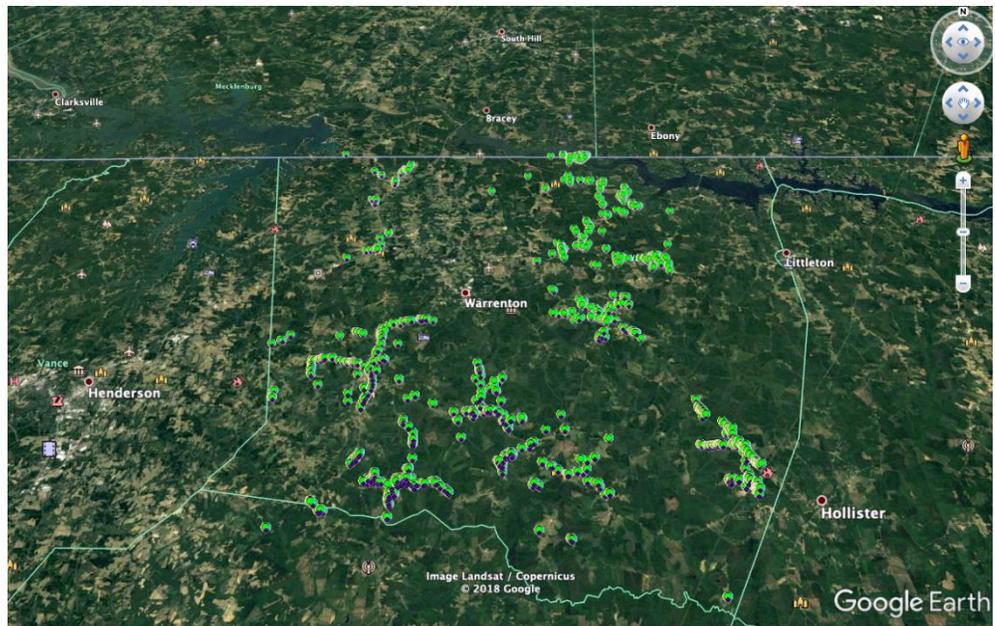
⁴ <https://broadbandnow.com/North-Carolina/Warrenton>



These accepted areas appear in green. In 2015, CenturyLink committed to supply 10Mbps download and 1Mbps upload broadband for all areas where Connect America Fund (CAF) subsidies are available in Warren County. These areas are shaded in green. Data from the FCC and its administrative arm, the Universal Service Administrative Company, show 943 of the addresses for which CenturyLink accepted Connect America Fund Subsidies. These have been mapped by the Warren County GIS department. The map is viewable here. Green dots represent address for which CenturyLink accepted CAF support funding to serve:

[CAFII Addresses Warren County](#)

1.2.2 High Density Areas of Warren County-
The following is a sampling of high density areas of Warren County:



Town of Warrenton-
Warrenton is the county seat of Warren County, North Carolina, United States. The population was 869 at 2016.

Warrenton, now served by U.S. 401 and U.S. 158, was founded in 1779. It became one of the wealthiest towns in the state from 1840 to 1860, as it was the trading center of an area of rich tobacco and cotton plantations. It has a large stock of historic architecture. More than 90 percent of its buildings are listed in the National Register of Historic Places



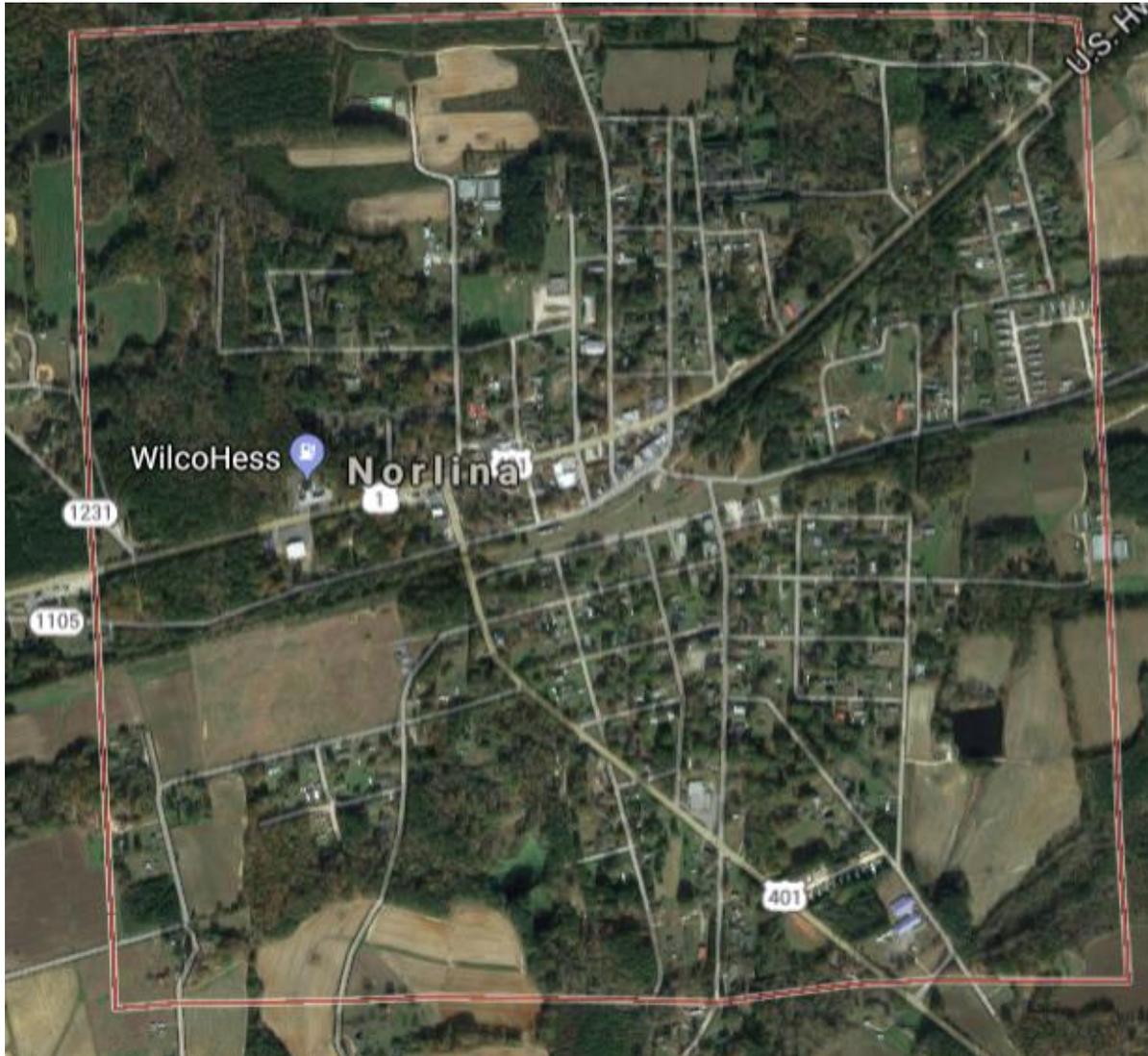
and its National Historic District encompasses nearly half its area. An aerial photo of Warrenton appears on this page.

Warrenton's median household income in 2016 is \$32,688; median house value is \$160,346.

The land area of the town is .88 square miles and the density is 987 people per square mile.

Norlina, NC

Norlina, North Carolina is a town in Warren County, NC. Its population in 2014 was estimated to be 1086. Its median household income in 2016 was \$23,286. Estimated median house value was \$76,225 in 2016. The town encompasses 1.12 square miles and the population density is 967 people per square mile. An aerial photograph of Norlina appears below:



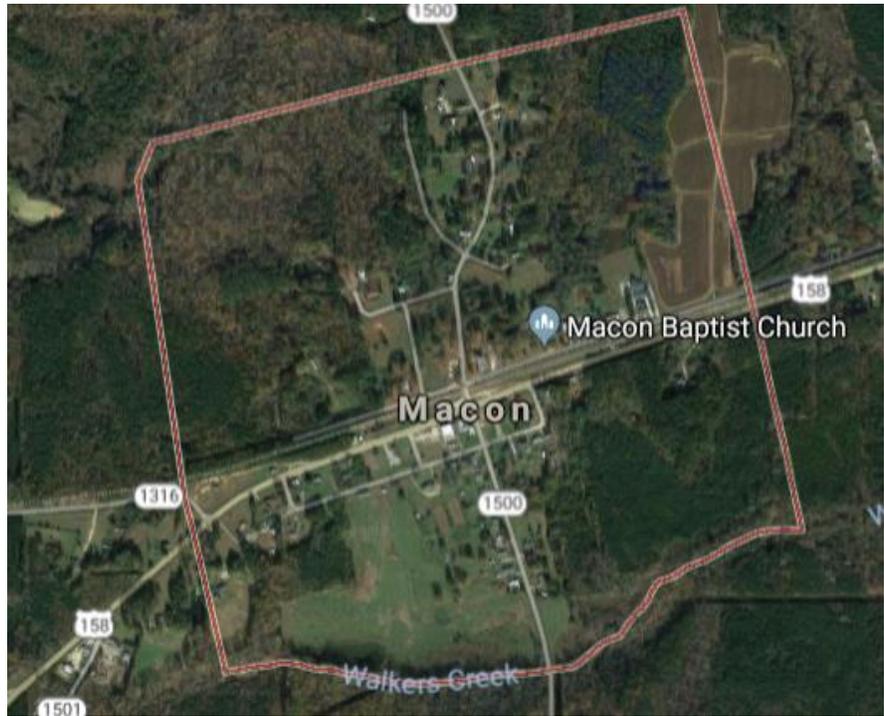
Macon, NC

In 2014, the municipality of Macon, NC had a population of 116 residents.

Estimated median household income in Macon is \$55,033. Estimated median homestead value is \$69,171.

Land area is .45 square miles with a population density of 255 per square mile.

An aerial photo of Macon appears to the right.



Areas around Lake Gaston:

An aerial map shows several areas of service around Lake Gaston. Specifically, County Road 1336 and Winds Road and Clark Road that lead to the waterfront. Also, County Road 1306 and Bell Street that leads to the waterfront, have some significant density of high value housing as depicted on the aerial photo below:



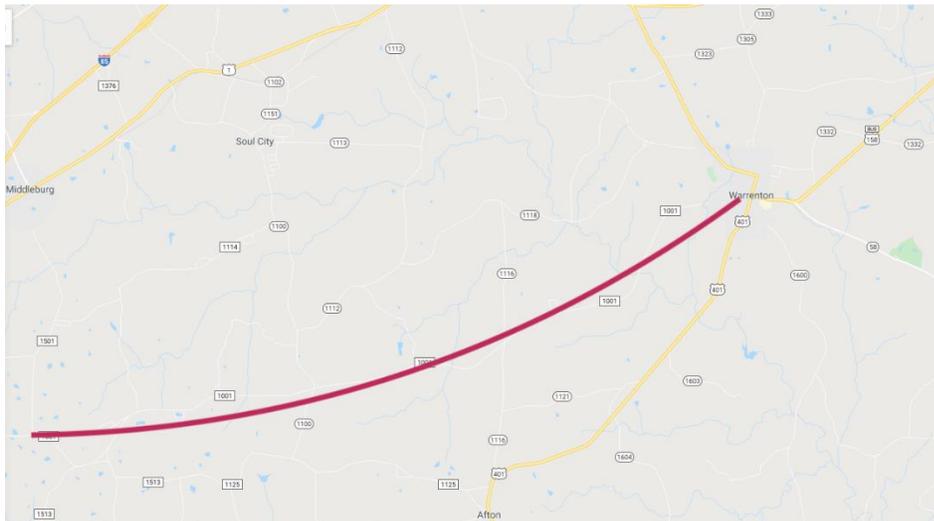
Haliwa-Saponi Tribal Community

The Haliwa-Saponi comprise slightly more than 3,800 enrolled citizens. About 80% of tribal members reside within a 6-mile radius of the small unincorporated Halifax County town of Hollister. This 6-mile radius encompasses areas in both Halifax and Warren counties.

The map below represents a 6-mile radius drawn from Hollister. The map shows the Haliwa-Saponi Tribe would reside in the Southeastern portion of Warren County. This includes unincorporated area of Arcola and the Arcola Sawmill. Special funding could be available from the Federal Communications Commission, the Bureau of Indian Affairs, the United States Department of Agriculture and other sources to deploy service on tribal land even though the Haliwa-Saponi tribe is recognized only by the North Carolina Commission on Indian Affairs.



The Haliwa-Saponi Tribal School has applied for only Local Area Network (Category2) E-rate funding the last 4 years. The School is eligible for Category1 – Data Transmission and Internet Access funding. Vendors should contact the tribe and tribal school to see if an E-rate bid for Internet Access is feasible.



Area along NC1001 from County Line in SW Warren County into Warrenton

The area along NC 1001 has some population density along the entire route. This route could be a candidate for a fiber run feeding residential and commercial customers off the route.

1.2.3 – Description of Services

Based on feedback to the Warren County Commissioners and county administrators, these unserved/underserved areas, higher density areas, and other areas of the County appear to still lack appropriate broadband service. The County is seeking other options for service in unserved or underserved areas. The options sought by Warren County include enhanced service offerings from current providers or service offerings from new market entrants in Warren County.

The provider(s) of the Network(s) in the unserved/underserved areas will take responsibility to design, engineer, construct, project manage and equip the Network(s). Network(s) access should include building up to and propagating a wireless signal to the end user drop point or the end user Network(s) interface device. In addition, the Vendor(s) will bear all the operating and maintenance costs, including insurance costs and relevant taxes of the Network(s). Vendor(s) should also demonstrate a clear and continuous upgrade path for the Network(s) to meet future consumer demand, business demand, community anchor institution demand, and service developments.

Warren County’s 2018 broadband study by RiverStreet Networks included a detailed fixed wireless analysis of the County provided by Vantage Point Solutions. This comprehensive study is attached to the RFP, and mentioned in Appendix E and includes;

- Timelines for deployment
- Propagation maps
- Estimated costs

Respondents who propose a fixed wireless last mile solution will find this study helpful in preparing their responses to this RFI.

- A. **SPEED:** Initial offerings of a minimum of 25Mbps download (down) and 3Mbps upload (up) wired or wireless solutions, scaling to 100Mbps download/10Mbps upload minimum for the majority of the Warren County geographical service area by 2022. Preference will be given to Vendors offering higher network speeds.

Initial offerings should include price points at the following tiers:

Download Speed	Upload Speed	Comment
10Mbps	1Mbps	Deeply discounted service for families who participate in the National School Lunch Program or other other assistance programs. Coordinated with Warren County Department of Social Services and Warren County School District for families that do not have broadband connection at home
25Mbps	3Mbps	Lowest service tier offered
50Mbps	6Mbps	
100Mbps	20Mbps	
250Mbps	25Mbps	
1Gbps	100Mbps	Highest tier offering

- B. **SERVICES REQUIRED:** high quality voice, data, and video services, and tele-health solutions.
- C. **PREFERRED TECHNOLOGY:** Warren County espouses a technology neutral approach for these all areas of the county with a strong preference for fiber to the premise solutions in selected high-density areas (outlined in section 1.22). The following are a list of common broadband

infrastructure technologies that will be considered for service to these areas. Service Providers should not view this list as exhaustive but should propose technologies that they are certain can scale to the bandwidth and reliability needs outlined in this technical specification.

- **Lit fiber service** – realizing that many of these areas are rural and remote, fiber deployment may not be realistic. For these areas, if a fiber to the premise solution is considered, Warren County would prefer it be a fully managed, bundled (transport and access included) service at a minimum 25Mbps download/3Mbps upload initially scaling to a minimum of 100Mbps download and 10Mbps upload service by 2022.

Warren County is willing to consider incentives for fiber based last mile service offerings or for wireless services that are supported by nearby fiber backhaul services (for a minimum of 25Mbps download/3Mbps upload initially scaling to 100Mbps download/10Mbps upload service by 2022 in lower density areas). The vendor should include a network diagram with each solution.

Important Notes other Broadband Assets in Warren County: Warren County Schools: Respondents should note that Warren County Schools are served by a fiber based Wide Area Network that connect schools throughout the county to a district hub. This school WAN was installed by fiber wholesaler/enterprise solutions provider Conterra Networks in 2013.

A map of the school district's schools appears here:

[Warren County Schools](#)

The Warren County School WAN places substantial fiber assets in Warren County. Conterra recently won a renewal of the Warren County Schools contract through school year 2022-23. Any provider considering fiber to the premise, fiber backhaul, or a fiber/wireless hybrid solution for the county should inquire about these existing fiber assets. E-rate special construction funds were not used to fund the Warren County Schools network

Halifax Electric Membership Corporation (EMC)-Halifax EMC has limited fiber optic assets along its transmission lines but is using wireless spectrum to monitor substations, reclosers, sectionalizers and other power transmission/distribution gear in its power transmission and distribution system. As a result, Halifax EMC has land and vertical assets that may be available for lease to a respondent. Warren County is happy to make introductions to Halifax EMC to providers interested in potentially leasing assets.

- **Lit terrestrial based service with last mile over a transport medium other than fiber (copper or coaxial) but fiber transport from a nearby node**– realizing that many of these areas are rural and remote, fiber deployment may not be realistic. For these areas, if existing or planned copper or coaxial service is available, Warren County prefers it be delivered with current generation switching capability at Central Offices/wireless tower locations in the area and fiber backhaul as near as possible to the local Central Offices/wireless tower locations. The vendor should include a network diagram with each solution showing the equipment used in each switching station and where the handoff to fiber-based infrastructure will occur.

Note that the incumbent carriers have accepted Connect America Fund allocations to deploy 10Mbps download and 1Mbps upload in many of these areas in Warren County. Warren County may consider additional limited incentives to the incumbent or new incentives to a competitive carrier to upgrade/or introduce new service offerings to a minimum of 25Mbps download/3Mbps upload initially scaling to 100Mbps/10Mbps upload service by 2022.

- **Lit Point to Point Microwave service** - Service provider owned microwave with a fully managed, bundled (transport and access included) service at a minimum 25Mbps download/3Mbps upload initially scaling to 100Mbps download/20Mbps upload service by 2024.

The vendor shall engineer, design, and implement high-availability microwave paths that have path reliabilities of not less than 99.95% and a fade margin of not less than 30 dB for all microwave paths. The contractor shall apply for, coordinate, and obtain FCC licenses for all microwave paths requiring licensing. Unlicensed spectrum can be used to deliver service but performance standards must adhere to the proposed Service Level Agreement.

D. SERVICE SPECIFICATIONS – For wireless solutions, the Warren County prefers the following the service standards. Respondents should indicate if these standards can be met in their proposal.

- 99.9% circuit uptime
- Frame/packet loss .50% commitment
- 50 ms Network Latency Commitment
- 10 ms Network Jitter Commitment
- Rate limiting and throttling will be reported to customer
- Credits for cumulative outages over the 99.9% Uptime Standard according to the following schedule:

Length of Service Outage	Credit is the follow percentage of Monthly Recurring Cost
Less than 2 hours	No Credit
Two (2) to four (4) hours	5%
Greater than four (4) hours and less than eight (8) hours	10%
Greater than eight (8) hours and less than twelve (12) hours	15%
Greater than twelve (12) hours and less than sixteen (16) hours	20%

Greaterthansixteen(16) hours and less than twenty-four (24) hours	35%
Greater than twenty-four (24) hours	50%

- E. **WARREN COUNTY SUPPORT FOR BROADBAND AVAILABILITY:** The Warren County Commissioners and the Warren County may consider small amounts of subsidy funding for deployment of enhanced fiber or wireless service into these unserved and underserved areas of the county. For example, the County may offer a per household or per business subsidy for deployment of terrestrial service or may support service to underserved areas by providing or funding the construction of towers required to bring wireless signal coverage and service availability to these underserved areas of Warren County. This may be up to 20% of the vendors construction costs. Any subsidy is contingent upon approval and funding by County commissioners and/or Warren County.

The amount of subsidy, if any, will be determined at the sole discretion of the Warren County and the Warren County Commissioners and in no case will exceed a small percentage of the capital deployment costs (construction materials, construction labor, engineering, project management, core/edge/premise equipment) necessary to deliver broadband service to businesses and residences. Vendors requesting a subsidy, must provide detailed/line-item invoices of costs. Subsidies will be divided and paid on a per household or per business basis with proof of subscription.

In addition, Warren County, anticipates lending advocacy and support to any efforts by the selected respondent to secure State of North Carolina, United States Government or other grant, loan or investment funding to support the respondent’s effort to deploy enhanced broadband service in Warren County.

- F. **SERVICE PERIOD:** Up to 20 years from date of first operation
- G. **EXPANSION:** Provides a comprehensive broadband infrastructure that can be expanded upon to serve other areas of Warren County when deemed practical.
- H. **ACCESS TO ASSETS:** If permitted by state law, Warren County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Warren County. Respondent shall be responsible for any costs related to structural engineering studies or structural integrity studies for existing structures.

Warren County members will also consider entering into service contracts with prospective vendors to meet Warren County Government broadband service needs.

1.2.3 Warren County Government Services

Warren County Government currently has the following schedule of Broadband Internet services for County Government offices. Warren County Government facilities:

Facility	Address	Current download speed (Mbps)	Current upload speed	Cost per month
Board of Elections	309 N. Main St.	10	1	\$204.29
EMS Station 2	1945 US Hwy 401 S	1	570Kb	\$128.65
EMS Station 3	370 Davis Bugg Rd	1	570Kb	\$146.65
New EMS/Emergency Serv.		Fiber 100	10	\$1,721.86
Public Works Landfill		5	570kb	\$118.64
Recreation	Wilcox St	10	1	\$120.48
Bucksprings		10	1	\$53.98
Child Support	820 US Hwy 158 Bus W.	300	20	\$164.64
Soil & Water	820 US Hwy 158 Bus W			\$131.12
Administrative Office	602 W Ridgeway Street Warrenton, NC 27589	100	10	\$204.92
Animal Control	142 Rafter's Lane	200	10	\$104.97
Armory	501 US Hwy 158 Bus E	Uses Economic Dev internet		\$59.99
Economic Development	501 US Hwy 158 Bus E	200	10	\$60.00
EMS/Emergency Service	540 W. Ridgeway St	60	5	\$104.94
Finance	548 W. Ridgeway St	60	5	\$48.31
Health	544 W. Ridgeway St	100	10	\$269.97
Health	544 W. Ridgeway St	300	20	\$99.98
Information Technology	548 W. Ridgeway St.	Uses Finance internet 60	5	\$48.31
Public Utilities/Public Works	712 US Hwy 158 Bus W	200	10	\$114.97
Register of Deeds	109 S. Main St.	200	10	\$99.98
Senior Center	435 W. Franklin St	200	10	\$99.98
Sheriff/911/Detention	132 Rafter's Lane/134 Rafter's Lane	100	10	\$161.25
Sheriff/Detective Office	548 W. Ridgeway St	Uses Finance internet		\$48.30
Social Services	307 N. Main St	300	20	\$274.98
Tax Administration	117 S. Main St	60	5	\$114.98
Library	119 S. Front St	20	20	\$434.00
Veterans Services	109 S. Main St.	200	20	Shared w/ ROD
Cooperative Extension	158 Rafter's Lane	Uses State Internet		
Planning/Zoning/Code	542 W. Ridgeway St.	Uses Health Dept Internet 100	10	

Warren County Government would like delivery of **symmetrical service** over fiber or other terrestrial (Coax, Copper) to each of these facilities.

- The County would like pricing options beginning at 50Mbps and options for 75Mbps, 100Mbps, 250Mbps, 500Mbps and 1G for 36-month and 60-month terms.
- The County would like a contract that allows the County to upgrade a facility without triggering an extension of the term.
- The County desires an SLA outlined in the SERVICE SPECIFICATIONS SECTION on page 20 for all County Government Offices.

In addition, Warren County has compiled [a map that displays](#) telecommunications assets, in addition to the aforementioned fiber network serving Warren County Schools, that may be available to assist respondent's in their deployment of terrestrial and wireless broadband service in Warren County. These are listed in attachment B.

The evaluation criteria for proposals that include proposals to serve County facilities are the same as the overall evaluative criteria for the RFP in section 15.

Warren County

Respondents to this RFP are welcome to submit a bid to meet these broadband service requirements. RFP responses will be evaluated for pricing as well as the breadth of their response. While pricing will be a primary factor, meeting the requirements of more than one portion of the RFP will also be a primary consideration.

County Fiber Construction-The county will also consider constructing County Owned fiber to serve the needs of County and City/Town facilities. If permitted by state law, Warren County may offer, with the approval of its county commissioners, access to these newly constructed fiber assets on a competitively neutral basis to assist with the deployment of broadband in areas of Warren County.

Construction routes will terminate at the County demarcation (A location) and have node drops/handholes at the County and City facilities listed in section 1.2.3.

Construction specifications for new fiber are located in Appendix D.

Access to County Assets:

If permitted by state law, Warren County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Warren County.

The County facilities listed above are considered "broadband assets" of the county and available for use by vendors upon negotiation of terms and conditions of access with the County. The map at this [link](#) displays potential assets for lease.

SERVICE SPECIFICATIONS: For services to government and public facilities, the Warren County prefers the following the service standards. Respondents should indicate if these standards can be met in their proposal.

- 99.99% circuit uptime (87.6 minutes)
- Frame/packet loss .50% commitment
- 25 ms Network Latency Commitment
- 10 ms Network Jitter Commitment
- Rate limiting and throttling will be reported to customer
- Credits for outages once the cumulative outage reaches 87.6 minutes according to the

following schedule:

Length of Service Outage	Credit is the follow percentage of Monthly Recurring Cost
Less than 45 minutes	No Credit
45 minutes to four (4) hours	5%
Greater than four (4) hours and less than eight (8) hours	10%
Greater than eight (8) hours and less than twelve (12) hours	15%
Greater than twelve (12) hours and less than sixteen (16) hours	20%
Greater than sixteen (16) hours and less than twenty-four (24) hours	35%
Greater than twenty-four (24) hours	50%

2. Eligible Vendors

Eligible vendors will meet the following requirements:

- A Private For-Profit business licensed to operate in NC
- Vendors must have a minimum of five years of operations providing high-speed Internet service.
- Vendors must be in good financial standing. Vendors should have a positive cash flow, a positive credit history, and must provide an audit. Financial documents that must be submitted along with this application are outlined in Section 11.4.

The WARREN COUNTY reserves the right to reject all proposals and may select multiple vendors to provide service.

Each Vendor will be an independent contractor that provides all design, construction, and operation services for the Network(s). WARREN COUNTY and its affiliates will have no ownership in the Vendor(s) that owns and operates the Network(s). WARREN COUNTY and its affiliates' contract(s) with the Vendor(s) do not constitute franchise(s). WARREN COUNTY and its affiliates do not plan to regulate generally Vendor(s)' business activities, nor to grant Vendor(s) a franchise for its activities and operations. WARREN COUNTY and its affiliates expect that the contracts and property instruments associated with this effort shall establish terms and conditions governing the use of public assets that are utilized by Vendor(s) in its service delivery to its customers.

3. City and County Offerings

If permitted by state law, Warren County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Warren County.

3.1 County Asset Access Specifications

3.1.1 Fiber

City and County do not own fiber or empty conduit. However, since 2013 Warren County Schools has been served by a district wide, fiber-based, wide area network connecting all its schools. Conterra Networks is a wholesale lit fiber transport, commodity Internet and dark fiber provider that owns and operates the Warren County Schools WAN. Conterra has dark fiber strands available for lease in Warren County as a result of this school district network build and may be interested in working with respondents to this RFP.

The County has also made contact with Halifax Electric Membership Corporation (Halifax EMC). Halifax EMC has indicated a willingness to discuss cooperative broadband infrastructure deployments with respondents. Halifax EMC has plans for deployment of fiber along select (transmission and/or distribution) routes in its service territory.

3.1.2 Conduit

Warren County does not own fiber or empty conduit. The County has expressed a willingness to work with the chosen vendor to place conduit in already planned water, sewer and other utility or maintenance projects where trenches will be dug or ground disturbed.

3.1.3 Tower Access

Respondents may have access to space on towers that are owned by Warren County and/or its affiliates or are owned by entities that allow commercial providers to access them. A tower map and additional information about tower locations can be found at the following Google Map: [Google Map of Warren County Locations](#)

This map also contains Government and Education building locations.

3.1.4 Rights of Way

Construction and the installation of equipment in Warren County rights-of-way(s) will be subject to the applicable requirements and ordinances of Warren County and its affiliates. Subject to existing rights-of-way and easements, the Warren County and its affiliates will allow Vendor(s) to have access to necessary rights-of-way on property owned by Warren County and property on which it has an easement and authority to allow such access. Access will be provided in accordance with the applicable requirements or ordinances, but generally access will be provided during regular business hours for non-emergency work and 24 hours a day, 7 days a week in the event of an emergency. Access includes permission to perform construction work on Warren County and its affiliate's property, including construction in the streets as needed for the Network(s), subject to any permit requirements that the Warren County and its affiliates have. Warren County and its affiliates will assist in obtaining the required approvals to allow such work in said rights-of-way on a timely basis.

If requested, the Warren County and its affiliates will also cooperate with Vendor(s) in efforts to allow Vendor(s) to gain access to rights-of-way owned or controlled by third parties within the Service Area.

Planned street maintenance could be utilized to coordinate any proposed work with preexisting construction schedules and these schedules may have certain flexibility to align with a potential network rollout.

3.1.5 Pole Attachment Rights

Warren County and its affiliates may provide Vendor(s) with access to existing utility poles owned or controlled by the Warren County and its affiliates. The mechanisms by which WARREN COUNTY and its affiliates will provide such access to the poles, along with fees that will be charged, are listed in the will be subject to negotiation with the pole owner. Warren County will help facilitate these conversations if requested by the vendor.

If requested, Warren County and its affiliates will cooperate with Vendor(s) in its efforts to gain access to poles owned or controlled by third parties within the Service Area.

3.1.6 Co-location Space and Power

Warren County and its affiliates may provide access to segregated, secured spaces for telecommunications and network equipment within facilities owned or leased by Warren County or its affiliates; this space may exist in telecom closets or equipment huts at tower sites, fire stations, municipal buildings, or other locations. This space is typically not tiered data center space, and is generally unconditioned beyond standard building climate control. Some locations may contain generator/UPS backup for electrical utility service, although Warren County and its affiliates are open to proposals from Vendor(s) to add redundant services. Vendor(s) may choose to segregate their equipment within the shared space. Warren County and its affiliates will provide reasonable 24x7 access to the space for equipment maintenance and repair. The intent of Warren County and its affiliates is to make space available through a leasehold interest that matches the term of service.

Access to a segregated, secured space within a data center facility or computer room owned or leased by Warren County or its affiliates used for servers, telecommunications, and/or network equipment may also be made available. Warren County and its affiliates may provide access to the space through routine IT operations processes or through accompanied access to the space; alternatively, Vendor(s) may choose to segregate Vendor(s) and Warren County its affiliates' equipment from each other in order for Warren County its affiliates to provide full access by Vendor(s) into the facility without escort. Warren County and its affiliates will ensure data center is capable of receiving electrical service, computer room air conditioning, and customary facility monitoring services. Warren County and its affiliates will provide reasonable 24x7 access to the space for equipment maintenance and repair. Vendor(s) will be required to adhere to municipal security policies and practices for working in such a space.

3.2 Funding Available

Service to Underserved/Unserved/Higher Density Areas of Warren County- The Warren County Commissioners may consider small amounts of subsidy funding for deployment of enhanced terrestrial or wireless service into these unserved and underserved areas of the county. For example, the County may offer a per household or per business subsidy for deployment of terrestrial service or may support service to underserved areas by providing or funding the construction of towers required to bring wireless signal coverage and service availability to these underserved areas of Warren County. Any subsidy is contingent upon approval and funding by County commissioners and/or Warren County.

The amount of subsidy, if any, will be determined at the sole discretion of the Warren County and the Warren County Commissioners and in no case will exceed a small amount of the capital deployment costs (construction materials, construction labor, engineering, project management, core/edge/premise equipment) necessary to deliver broadband service to businesses and residences. Vendors requesting a subsidy, must provide detailed/line-item invoices of costs. Subsidies will be divided and paid on a per household or per business basis with proof of subscription.

Fiber to the premise service to higher density residential areas including the Towns of Warrenton, Norlina; in and around Lake Gaston; Kerr Lake and other underserved developments in the County; in the unincorporated area of Macon and in higher density areas of the Haliwa-Saponi Tribal lands:

For a fiber to the premise (FTTP service), Warren County is willing to consider offering the following incentives if a bid meets the present and future bandwidth and service specifications:

Potential cash grants from the Warren County assist with construction to business and residential locations up to but not exceeding a **small percentage (less than 15%) of the capital investment costs for deployment of fiber in the high-density areas and up to 15% of capital costs for wireless deployments in unserved areas.**

- Serving Warren County Government administration locations. Current spend is approximately \$5,200 per year
- County and townships with governments may consider waiving franchise fees for up to the first 3 years of operation
- Single point of contact for Warren County Right of Way permits and other administrative processes
- Promotion of the service by Warren County Economic Development to businesses and residences
- Any County or Warren County offer of a subsidy may be on a per household or per business subsidy for deployment of a fiber-to-the-premise service. Any subsidy is contingent upon approval and funding by County commissioners and/or Warren County.

3.1.1 Funding restrictions

Warren County will not award grants to substitute for lost government appropriations or cover pre-existing operating expenses for established organizations or pre-existing deployment to any of the Eligible Service Areas. Warren County will assist respondents in seeking Federal Government, State Government and private/non-profit grants and/or loans to assist its Warren County deployment.

3.2. Assistance in Identifying and Generating Demand

Warren County and its affiliates may negotiate individual commitments to purchase Network(s) services needed for Warren County and its affiliates operations (e.g., transmission capacity, Internet access, voice, video, security monitoring, cloud computing and storage) through the Network(s).

If requested, Warren County and its affiliates will provide Vendor(s) with publicly available information as to entities in the Service Area that are candidates to enter into contracts for fiber or Network(s) services. Such potential end-users may include educational institutions, large/medium/small employers, and governments. An initial list of such entities and contact information for key personnel may be listed in the Schedules for each individual community.

Warren County and its affiliates may each publicize the proposed Network offerings in the same manner as other private economic development announcements.

Already, over 300 residents in the northern area of the county, surrounding Lake Gaston, have signed a petition of interest seeking better broadband service. A copy of this is attached at the end of the RFP. The County also has several developments in all areas of the County that are underserved where an effort to help located interested customers for a new service would likely yield some significant customer uptake.

3.3 Assistance in identifying and pursuing State and Federal Sources of funding

The Warren County Commissioners will assist the respondents chosen for partnership in pursuing Federal and State government broadband funds from various programs and any available foundation and economic development broadband grants. Respondents should outline as part of their proposals, the funds they expect to pursue and their expectations of County support in this pursuit. Funds sought can be grants, loans, reimbursements or other forms of funding.

Some possible sources of funding include:

Fund Source	Fund Name and Definition	Process
State of North Carolina	<p>Growing Rural Economies with Access to Technology (GREAT)-Governor signed allocation of \$15M in FY20-21 state budget.</p> <p>(GREAT grant website)</p>	<p>Program is defined at NC Department of Information Technology website. Available after budget approval by NC General Assembly and signing by Governor. Large areas of Warren County should be eligible for Support if the standard is 25Mbps download and 3Mbps upload.</p>
Federal Communications Commission (FCC)	<p>Rural Digital Opportunity Fund – (RDOF) the RDOF is the successor to the Connect America Fund. It will distribute \$20Billion via reverse auction to bridge rural broadband gaps. This is anticipated to being in 2020. The areas eligible for funding are still being determined. The reverse auction process will be similar to the Connect America Fund II 903 Auction.</p> <p>(RDOF rulemaking process)</p>	<p>Rulemaking is in process. Providers should monitor the eligible areas and broadband standards.</p>
FCC	<p>E-rate-Reimbursement for School and Library broadband connections (FCC E-rate Website). Reimbursements range from 20-90% of the total one-time and monthly recurring costs. The reimbursement rate is based on the % of student participation in the National School Lunch Program (NSLP) in the district.</p>	<p>School or library must follow E-rate procurement guidelines.</p>
FCC	<p>5G Fund for Rural America-\$9Billion in subsidies awarded via reverse auction to introduce 5G wireless service to most rural areas of the country.</p>	<p>Announced on 12/4-rulemaking still to be done.</p>
FCC	<p>Rural Healthcare Program (RHP) - The FCC's RHP provides reimbursements for broadband connections to rural healthcare providers and some urban healthcare providers if the urban healthcare provider is a member of a consortium that has a majority of rural based members. The RHP has two funding scenarios, the telecommunications program and the healthcare connect fund (HCF). The Healthcare Connect Fund is a flat 65% reimbursement of broadband costs for participants.</p>	<p>Many rural healthcare providers in North Carolina are already part of the North Carolina Telehealth Network. This is an HCF consortium. No sites in Warren County are listed on the NCTN map.</p> <p>Applicants must follow RHP procurement guidelines</p>
US Economic Development Association (US Department of Commerce)	<p>The U.S. Economic Development Administration's investment policy is designed to establish a foundation for sustainable job growth and the building of durable regional economies throughout the United States. In recent grants to</p>	<p>US EDA Grant Opportunities</p>

	communities and regions have included broadband infrastructure grants. Public/private partnerships have a good track record of grant funding with EDA. EDA also provides some funding to Appalachian Regional Commission projects.	
Golden LEAF Foundation	The North Carolina based Golden LEAF foundation has a fund for broadband projects. The source of funding comes from a portion of the proceeds MCNC receives for leased dark fiber arrangements on the Golden LEAF Rural Broadband Initiative (GLRBI) network. To date, the grants from this fund have been used to expand the GLRBI, but other grants for specific projects may be possible.	Golden LEAF Foundation

4. Vendor Services

Warren County and its affiliates are looking for innovative solutions which may entail one or more Vendors collaborating to create a turn-key system.

Service descriptions must include complete system design, engineering, operations, monitoring, maintenance, customer support provisions, and enhancements. The Network(s) rollout will be based upon demonstrated demand by community residents, institutions, governments and businesses, and the availability of necessary infrastructure. The Network(s) design and operation should preferably provide an open access framework that maximizes wholesale and retail service delivery and competition.

5. Expected RFP Schedule

- January 7th, 2020 Request for Proposal issued by Warren County
- January 21st, 2020 Warren County RFP overview meeting (web conference)
- January 30th, 2020 Questions from vendors due
- February 6th, 2020 Answers to vendor questions posted
- March 4th, 2020 RFP responses due

6. Application Submission Process

One electronic copy of this application, and all relevant materials, must be received by 5:00 PM on the deadline date. Faxes are not acceptable. The electronic copy should be submitted by e-mail to rfp@warrencountync.gov.

When submitting materials by e-mail, you must have a reply from the Warren County representative acknowledging receipt of materials.

7. Proprietary Information

Proprietary information may be submitted as part of the proposal. Please clearly mark only the pages that contain proprietary information with the word "CONFIDENTIAL."

8. Requesting Additional Information and Questions

Warren County will respond to questions submitted ONLY via e-mail to **rpf@warrencountync.gov** The deadline for questions is 5:00 PM, January 30, 2020. The questions will be answered to the submitter and all questions and responses will be posted on the website. Neither the Warren County staff nor County Commissioners will answer questions directly. The website location is: <https://www.warrencountync.com/640/Broadband-Initiative>

9. Application Requirements and Instructions

Vendors are required to complete and submit the following materials for their grant proposal application:

- (1) **Cover Sheet** (Section 10)
- (2) **The Project Proposal** (Section 11)
- (3) **Certification by Vendor** (Section 12)

10. Cover Sheet:

Warren County Broadband RFP

General Information

Legal Name of Vendor Unit:

Name and Title of Manager or CEO:

Mailing Address: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____

Email: _____

Name and Title of Project Contact: _____

(This project contact should be the person who can best answer project questions)

Address: _____

Telephone: _____ Email: _____

Federal Tax ID Number: _____ Fiscal Year-End Date: _____

Project Information

Project Start Date: _____ Project Completion Date: _____

Service Area: served Areas War County High Density Townships & other areas

Government Facilities

11. The Project Proposal

Vendor(s) shall design, build, install, operate, support, and manage the Network(s). Vendor(s) are encouraged to propose on all features with coverage over the full service area. Vendors may bid on parts or the whole of the RFP. If a vendor chooses to propose on less than the whole service area, that vendor must provide details as to which features and service area(s) for which it is proposing, including the use of maps or other diagrams as necessary to sufficiently allow Warren County its affiliates to review the vendor’s proposal. Vendor(s) should describe which, if any, of the turnkey services described below, it will provide. Vendor must explain or

describe how it would allow for connection to other service areas in the event a vendor wishes to propose on less than the full service area.

The following list of required information is offered to facilitate the preparation of the comprehensive proposal package that Warren County to have in order to give each proposal fair and adequate consideration.

All submitted proposals must include the following components as outlined below:

11.1 Technical Plan for the Proposed Project

The technical plan must describe in detail how the proposed project will bring high-speed Internet services to the Eligible Service Area(s). Where relevant, provide accompanying documentation.

11.1.1 Broadband Coverage map

- A map and build out schedule (GIS shape file). If less than the entire Service Area is being proposed on, Vendor's portion of the Network(s) must provide for interconnection at no cost with other portions of the Network(s). An explanation as to how Vendor(s) expects to accomplish all interconnections should be included in Vendors' response.
- An explanation as to how Vendor(s) expects to accomplish interconnection.
- Detailed design for at least one multi-family dwelling (MDU), a Township business, and/or a residential neighborhood, if such feature is included in proposal.
- A discussion of the anticipated deployment strategy, scope, and timing of the proposed rollout, including if there would be multiple phases of the deployment and availability of services and, if so, what services would be made available during each phase. The discussion should identify the levels of committed demand necessary to trigger rollout obligations and any factors likely to influence the scope or timing of the rollout and explain how those factors impact the strategy.

11.1.2 Project Implementation Timeline and Performance Milestones*

The technical proposal must be accompanied by a proposed implementation timeline.

- The proposal must develop a detailed project schedule that indicates key events that are tied to the need for the release of funds and incentives by Warren County.
- The proposal must specify the projected date by which the project will be completed and the date service delivery will commence over the proposed infrastructure.

* Warren County may choose to implement the project in a phased approach, starting with a pilot. If this option is chosen, the county will work with the vendor to adjust the timeline accordingly during the grant agreement discussion.

11.1.3 Service Offerings

A description of proposed wholesale or retail service offerings that the Vendor(s) anticipates offering to institutional, business, government, residential, and other potential customers. Response should address 1) pricing strategy, include anticipated rates for services and minimum time-period those rates would remain in place without escalation, and limitations on increases in rates over time, and 2) an explanation of Vendor's willingness to work with Warren County to develop unique pricing or packages for key community stakeholders and populations (e.g., government, K-12 facilities and economically distressed areas), and 3) customer support model for each service. Proposals must

include a reduced rate option for qualifying economically distressed residents. Explanation of the qualifying standard, if available, should be included. The county can provide qualification requirements and determine eligibility, if desired.

Internet Services

- Residential
- Bulk internet to multi-dwelling units (MDUs)
- Dedicated business/institutional
- Wholesale Internet access

Service Circuits

- Point to Point
- Multipoint Optional Services
- VOIP services
- Wi-fi
- Video services

Vendors' response should include any other services that it will provide with its standard services or as optional services.

11.1.3b Community Issues

An explanation of how the vendor will work with the local community to address the homework gap and public access issues. This can include the installation and management of public access sites in gathering spots in the County designated by the County; wireless access devices on school busses and other strategies. The County will assist with/facilitate the contact with the Warren County School District to discuss possible solutions.

An explanation of how the provider would approach serving the select developments in the County, particularly those developments close to Lake Gaston, that have attracted families and individuals who desire to work from home. As stated earlier in this RFP, over 250 residents have signed a petition seeking better options for broadband service. The County also has several developments in all areas of the County that are underserved where an effort to help located interested customers for a new service would likely yield some significant customer uptake.

Respondents should include a plan for outreach to these areas of the county and some immediate (within 12 months of selection) implementation of better broadband solutions for these areas of the County.

11.1.4 Technical system explanation

A description of the Network(s) technologies underlying the proposed Network(s) solution(s) included in the response. Each description should include the following information:

- Service Availability
 - Targets for uptime
 - Redundancy
 - Propagation Maps (Wireless)
 - Oversubscription rate (anticipated)

- Design points for capacity
 - Capacity per customer
 - Number of fibers
- Maximum number of end-point customers per node or per aggregation hub
- Licensed spectrum used for wireless solutions and proof of spectrum access
- Unlicensed spectrum used for wireless solutions and plan to respond to interference claims

11.2 Roles and Responsibilities

A description of the roles and responsibilities envisioned for Vendor, Vendor team members, Warren County and its affiliates, and subcontractors or third parties (if applicable) for each of the following:

- Network(s) design
- Network(s) construction
- Network(s) operations and management
- Customer support
- Publicly available information
- Marketing

Material Tasks/Components: Vendor shall provide a breakdown or outline of the material tasks or components of the design, construction, operation and management of the Network(s) and its rollout.

11.3 Management and Staffing

The proposal must describe the role of key project personnel (including job descriptions) and provide documentation of the ability of current management and staff to fulfill those responsibilities. Please attach resumes of key project personnel and a list of anticipated subcontractors.

Vendor's proposal shall include organizational documents filed with the applicable governmental agency (i.e., Articles of Incorporation or Articles of Organization) as well as a Certificate of Good Standing (or equivalent) from the applicable agency and any licenses to provide communications services that may be required by the North Carolina Public Utilities Commission, Federal Communications Commission, or any other applicable governmental agency. Additionally, Vendor shall provide a certificate that it is in good standing to do business in the State of North Carolina and that all of its business and regulatory registrations/filings/taxes are current, and all internal corporate documents, are up to date.

The proposal must disclose the relationships, if any, which exist between key personnel and investors in this project.

11.3.1 Contractors - Procurement/Deployment

- The proposal must explain what process will be followed in obtaining services required for the development of this project.
- The proposal must explain if small and historically underutilized firms will be given special consideration in the bid process.
- The proposal must explain if there is a performance bond executed with contractors and subcontractors.

11.4 Project budget with consumer & residential broadband service packages

Provide a copy of the proposed project budget by line item, along with a budget narrative. Sources of other grant or loan funds in the project should be clearly identified.

The project budget should include a pro forma financial statement, identifying projected capital outlays, ongoing operational costs, and expected revenues from wholesale and retail services for at least the first five years of construction and operation. The plan should identify and quantify all key assumptions underlying the calculations.

The financial projections should specify the matching fund support from Warren County is assumed and any proposed access to Warren County assets that is assumed.

The financial projections should also include the pricing for residential and business broadband packages. This pricing should include all one-time and monthly recurring costs. The respondent's policies on contract lengths, contract cancellation fees should be included.

The respondent's Service Level Agreement standards should also be included in the proposal and if they are different than the standards in the RFP, the respondent should explain the reasoning for these differences.

11.5 Organizational Information

11.5.1 Organizational Structure

- The vendor must be a Private For-Profit business licensed to operate in NC and must furnish proof of this designation.
- Vendor must possess proper licenses to operate a broadband service business in NC
- Briefly describe the ownership structure of your organization. Vendors must identify what type of business they are, where they are organized (what state) and where their principle office is located.
- Vendor should provide a statement of experience highlighting similar Network(s) systems that it has designed, constructed, and operated, including project name, location, size, technology used, and names and phone numbers for reference contacts. Also, the proposal should indicate whether each system is owned by the Vendor(s) or another entity

11.5.2 Operating Finances

Vendor(s) shall submit 1) 2017 Dun & Bradstreet information supplement and 2) the two most recent annual audited financial statements to permit analysis of financial resources. If Vendor is part of a project group, the audits and Dun & Bradstreet report for each principal group member should be submitted. If the Vendor(s)'s response includes Vendor financing or committed bank or other financing, the audits and Dun & Bradstreet reports of such Vendors and financial institutions should be submitted. Security in the form of a letter of credit, bond or other security in the amount determined by Warren County after negotiation will be required of the successful Vendor(s) to guarantee completion of the Network(s), and shall be held by Warren County until completion of the Network(s).

11.5.3 Respondent Insurance

Respondent shall show proof of or express intent to purchase the following types and levels of insurance, with an insurance company acceptable to Warren County and authorized to do business in the State of North Carolina:

- AUTOMOBILE LIABILITY - Bodily injury and property damage liability insurance covering all owned, non-owned, and hired automobiles for limits for bodily injury of not less than \$1,000,000 per person/\$2,000,000 per accident, and property damage limits of not less than \$500,000 per accident.

The automobile liability insurance coverage amounts may be satisfied with a combination of primary and excess/umbrella coverage.

- **COMMERCIAL GENERAL LIABILITY** - Bodily injury and property damage liability shall protect respondent, and any subcontractor performing work under the contract, from claims of bodily injury or property damage which arise from operation of this Agreement, whether such operations are performed by respondent, any subcontractor, or anyone directly or indirectly employed by either. The amounts of such insurance shall not be less than \$2,000,000 bodily injury each occurrence/\$4,000,000 aggregate and \$2,000,000 property damage each occurrence/\$4,000,000 aggregate. This insurance shall include coverage for products, completed operations, personal and advertising injury liability, and contractual liability in an amount not less than \$2,000,000 each occurrence/\$4,000,000 aggregate. The liability insurance coverage amounts may be satisfied with a combination of primary and excess/umbrella coverage.
- **WORKERS' COMPENSATION** - Meeting the statutory requirements of the State of North Carolina, even if not required by law to maintain such insurance. Workers' Compensation insurance shall have at least the following limits: Employers Liability - \$1,000,000 per accident limit, \$1,000,000 disease per policy limit, \$1,000,000 disease each employee limit.
- **PROFESSIONAL LIABILITY** – Insuring against professional negligence, errors, and omissions on an occurrence or claims-made basis with policy limits of \$2,000,000 per claim/\$4,000,000 annual aggregate. If insurance is provided on a claims-made basis, “tail” coverage will be required at the completion of this Agreement for duration of thirty-six months, or the maximum time period reasonably available in the marketplace. Respondent shall furnish certification of “tail” coverage as described or continuous “claims made” liability coverage for thirty-six months following completion of its services under this Agreement. Continuous “claims made” coverage will be acceptable in lieu of “tail” coverage provided its retroactive date is on or before the effective date of this Agreement. If Continuous “claims made” coverage is used, respondent shall be required to keep the coverage in effect for duration of not less than thirty-six months from the end of this Agreement. This will be a condition of the final acceptance of work or services.
- Certificates of such insurance must be furnished and shall contain the provision that Warren County will be given thirty (30) days written notice of any intent to amend or terminate by either respondent or the insuring company. In addition, Warren County shall be named an additional insured under such automobile and commercial general liability policies.

11.5.4 Ownership and Equity Conversion Issues

- The proposal must describe the ownership structure of this project, detailing the nature of equity distribution and its basis.
- The proposal must detail any non-financial investment for which equity has been given.
- Vendors must include a proposal for the disposition of assets created or acquired through use of Warren County in the event that the project dissolves or terminates. Warren County that such dispositions, transfers or assignments preserve the goals Warren County for the purposes of this RFP.

12. Certification by Vendor

The attached statements and exhibits are hereby made part of this application and the undersigned representative of the vendor certifies that the information in this application and the attached statements and exhibits is true, correct and complete to the best of his/her knowledge and belief. He/She further certifies that:

1. As authorized representative, he/she has been authorized to file this application by formal action of the governing body;
2. That the governing body agrees that if a grant or award of contract from Warren County is awarded, the vendor will provide proper and timely submittals of all documentation requested by the County;
3. That the governing body agrees to provide for proper operation and maintenance of the project after its completion;
4. That the vendor has substantially complied with or will comply with all federal, state and local laws, rules and regulations and ordinances as applicable to the project.

Signature of Grantee/Authorized Representative

Typed Name and Title

Date

Checklist for Additional Forms:

Please enclose the additional items before submitting:

Cover Sheet Project Proposal (see guidelines in Section 11)

13. Application Selection Process

Applications will be reviewed to ensure that the application is received on time (by the RFP deadline), is substantially complete and meets other eligibility requirements. If these standards are not met, the application will not receive further consideration. Applications will not be returned to the vendor.

- (1) Timeliness. Applications will be reviewed to verify submission by the submission deadline. Warren County may reject applications that do not meet the submission deadline.
- (2) Completeness. Applications will be reviewed to verify completeness. Warren County may reject applications that do not address all items in these sections and are thus materially incomplete.
- (3) Eligible Service Area. Applications will be reviewed to ensure that proposed infrastructure projects will deliver services to areas designated in Section 1.
- (4) Eligible Vendor. Applications will be reviewed to verify the eligibility of the vendor. The vendor must be a private for-profit corporation.
- (5) Eligible Activities. Applications will be reviewed to ensure that the activities for which assistance is requested are eligible for funding.
- (6) Sustainability. Vendors' plans will be reviewed to ensure that the business plan will be sustainable over the long term.
- (7) Appeals Process: There will be no appeals process.

14. Corrections to Deficient Applications

After the application due date, no unsolicited information will be considered. However, Warren County staff may contact the vendor to correct non-substantive deficiencies. In each case of a completeness deficiency, the vendor will be notified by telephone or email documenting the deficiency. All supplemental information requested by the County must be received within five business days of the date of notice or the proposal will not be considered for funding.

15. Scoring for Proposals

Applications deemed complete will be reviewed and scored by the following criteria.

Scoring Factor	Criteria	Max Points
Breadth of the response	<ul style="list-style-type: none"> A. Number of the core requirements met by the proposal B. Address the need to bridge the homework gap C. Address the need in underserved developments that have attracted telecommuters D. Includes a well thought-out and realistic project implementation timeline E. Describes specific design and implementation methods and activities to be carried out as part of this project F. Ability to obtain financing 	25
Cost	<ul style="list-style-type: none"> A. Includes a well thought-out and realistic quarterly operating and capital budget B. Total project costs C. Total grant/other funds D. Match required from WARREN COUNTY E. Monthly cost to subscribers 	25
Long-term Sustainability	<ul style="list-style-type: none"> A. Includes a well thought-out and realistic explanation of how the provider will continue this project after this grant money has been expended B. Quality customer service offerings C. The solution will provide long-term upgradeability, business sustainability, and quality of service 	20
Capacity to complete the project	<ul style="list-style-type: none"> A. Depth of past/current experience B. Staff capacity and experience, relevant job descriptions C. Financial documents are in good standing 	15
Collaboration	<ul style="list-style-type: none"> A. Quality partnerships that may increase the success or impact of this project B. Experience or willingness to partner with the county to educate the public, especially low-income citizens 	10
Marketing	<ul style="list-style-type: none"> A. Marketing plan and experience to ensure that target audience will be reached 	5

16. Ranking

Each service area proposal will be ranked separately. Scores for each rating factor will be added together for each application to obtain a total score for each proposal. Proposals will then be ranked from highest to lowest according to the total combined score. Scores will be used to assist Warren County in its selection process; scores will not be used as the sole determinant of award.

Warren County may choose a single vendor or multiple vendors. The Warren County reserves the right to reject any and all proposals.

17. Award Requirements

Each Vendor will be required to enter into a contract with Warren County before it can receive grant funds or begin project activity. Warren County may include requirements for job creation, CRM location, etc. in the grant agreement.

Some of the grant award requirements and conditions are outlined below.

- Warren County Broadband Grant funds and commitments of facility access can only be used for the purposes set forth in the contract.
- All recipients must submit regular progress and financial reports. Specific reporting requirements will be described in the contract.
- The project may be implemented in a phased manner, providing service to an area initially and resuming service provision to other areas after an evaluation period. The option of using a phased approach will be discussed as part of the contract process.
- Warren County staff or their designee will monitor the progress made as compared to the submitted project milestones. These milestone dates will be a part of the contract. Monitoring will include regularly scheduled staff reviews. Grant payments and facility access will be released/granted based on these reviews and the assessment of progress against project milestones.
- Grant funding may be paid out on a reimbursement basis, with the payment schedule to be outlined in the contract.
- Unless negotiated otherwise, intellectual property rights developed or created with Grant funds, if relevant, will be proportionately shared with WARREN COUNTY.

18. Further Information

For further information about this program, please visit the Warren County website at <https://www.warrencountync.com/640/Broadband-Initiative>.

Appendix A -Glossary of Terms

Warren County Broadband RFP	<p>An effort led by the Warren County Commissioners and supported by its citizens and business to bring faster, more reliable, higher value, scalable broadband service to Warren County, NC. Warren County may include affiliate organizations that have agreed to support the county’s effort to bring enhanced broadband service to Warren County.</p> <p>The goal of this effort is 4-fold:</p> <ol style="list-style-type: none">1. Reach underserved areas of the county with more and better broadband service2. Provide scalable broadband infrastructure within Warren County that will allow private sector service providers to offer enhanced services to business and consumers within the city key economic corridors and relatively high-density residential corridors3. Meet WARREN COUNTY member administrative, public safety, public health and other area needs for scalable broadband service for at least the next 20 years4. Conversations with citizens and citizen surveys have uncovered two significant issues.<ol style="list-style-type: none">a. First, K-12 schools are increasingly incorporating a digital curriculum, meaning Internet access at home and on long bus rides is essential for maintaining expected academic progress. Parents at several community meetings and members of a County manager’s broadband action committee unveiled that many children in Warren County are faced with a lack of home broadband service. The County would like to address this need in three ways:<ol style="list-style-type: none">i. Offering affordable broadband options in all parts of the countyii. Creating County sponsored community hotspots at a few gathering spots within the countyiii. Working with Warren County School District to explore the possibility of offering mobile broadband solutions on school bussesb. Select developments in the County, particularly those developments close to Lake Gaston, have attracted families and individuals who desire to work from home. In fact, over 250 residents have signed a petition seeking better options for broadband service. Respondents should include a plan for outreach to these areas of the county and some immediate (within 12 months of selection) implementation of better broadband solutions for these areas of the County. The County also has several developments in all areas of the County that are underserved where an effort to help located interested customers for a new service would likely yield some significant customer uptake.
--	---

<p>Advanced Network</p>	<p>A comprehensive approach to meeting the goals of</p> <ol style="list-style-type: none"> 1. Better broadband access for the underserved areas of Warren County 2. Enhanced broadband access for key business/economic development and high density residential corridors 3. An efficient way to meet the broadband needs of government, residents and businesses for the foreseeable future <p>Last mile solutions can be fiber, coax, mobile wireless or microwave. Solution that provide 25Mbps download/ 3Mbps upload immediately and 100Mbps symmetrical service by 2020 (in accordance with the National Broadband Plan). For last mile solutions in higher density areas the Warren County prefers fiber-based solutions but is technology neutral.</p>
<p>Open Access</p>	<p>Warren County’s preference is that the chosen vendor (s), if the vendors operate a wholesale network (sell access to other service providers), will have reasonable and non- discriminatory access arrangements that (i) ensure equivalence of price and non-price terms and conditions for all retail service providers and (ii) permit such providers to differentiate their product offerings. In addition, the Vendor(s) may not limit the ability of retail service providers or their customers to run applications, use services, and connect devices of their choice to the Network(s).</p>
<p>Service Area:</p>	<p>Warren County’s area includes 2 townships Warrenton and Norlina; areas around Macon; areas in Warren County where members of the Hawila-Sapoini tribe reside; higher density housing areas around Lake Gaston The County also has several developments in all areas of the County that are underserved where an effort to help located interested customers for a new service would likely yield some significant customer uptake.</p>
<p>Vendor(s):</p>	<p>Business entity or entities which respond(s) to this RFP</p>

Appendix B – Attachments:

Attachment A: Potential Communications Facilities

Attachment B- Government Facilities and Telecommunications Assets

Appendix C – Access to Assets

If permitted by state law, Warren County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Warren County. Respondent shall be responsible for any costs related to structural engineering studies or structural integrity studies for existing structures.

Warren County may offer to provide Vendor(s) with access to a common pool of the assets, services and infrastructure to the extent available and needed by the Vendor(s) for deployment of the Network(s). Infrastructure may include, but will not be limited to, conduit, fiber, poles, substations, rack space, nodes, buildings, facilities, central office or switch locations, available land, and other assets and services identified below. Ownership of any and all such assets used by the Vendor(s) shall remain with the owner unless

provided for otherwise by contract. Any network elements added by the Vendor(s) shall belong to the Vendor(s) but may be purchased at the end of the term by the Warren County or an affiliate at reasonable, depreciated market value. If such network elements are not so purchased and are no longer in use, the Vendor(s) shall remove such elements at Warren County/affiliates request. Warren County their affiliates may also offer access to additional assets, services, and infrastructure at their discretion, this will be determined during the negotiation process with the vendor.

Warren County its affiliates may charge Vendor(s) as may be authorized or required by law for access to Warren County assets and infrastructure as set forth herein or as otherwise may be required by law. If the response from the vendor indicates funds are required for the design, construction, engineering, project management of the aggregation network or last mile services, Warren County and its affiliates, subject to applicable North Carolina law, will consider provision of these funds.

Appendix D: Fiber Construction Specifications

The following are general terms that apply to the construction of fiber to the premise within the or in the area surrounding the City's Townships and for routes to connect Warren County Government Offices.

These build specifications apply to all new fiber builds contained in this RFP whether directly owned by the Warren County, leased dark strands by the Warren County including the 2 townships of Warrenton and Norlina; areas around Macon; areas in Warren County where members of the Hawila-Sapoini tribe reside; higher density housing areas around Lake Gaston and all other areas of Warren County, NC

Colocation Space Availability

Warren County may decide lease rack or caged spaced at (interconnection address) to house electronics for traffic that will go upstream from the Warren County hub. Fiber construction/self-provisioning vendors should provide detailed information on access and cross-connect policies and arrangements for power and telephone service at (interconnection address).

Meet-me Hole and Mid-Span Interconnection Splicing

It is possible that Warren County may want to interconnect with the existing or newly planned carrier facilities at meet-me manholes or mid- span splice locations. Vendors should detail policies and guidelines that document meet-me manhole and mid-span interconnection procedures along with detailed costs for these activities.

Dark Fiber Performance

Warren County prefers newly built fiber that contains a homogenous fiber type throughout the entire build. It is currently anticipated that fiber utilized for the self-provisioned fiber proposal will be G.652.D fiber.

Dark Fiber Maintenance

Operations and Maintenance Practices: Warren County will require on-going maintenance and operations of any Warren County IRU'd or owned fiber for at least the first 5 years of the life of the self-provisioned fiber. When pricing maintenance and operations, the vendor should include an overview of fiber maintenance practices including:

- Routine maintenance and inspection
- Scheduled maintenance windows and scheduling practices for planned outages
- Fiber monitoring including information on what fiber management software is used, what fiber monitoring system is used, and who performs the monitoring
- Handling of unscheduled outages and customer problem reports What service level agreement is included, and what alternative service levels may be available at additional cost
- What agreements are in place with applicable utilities and utility contractors for emergency restoration
- Repair of fiber breaks

- Replacement of damaged fiber
- Replacement of fiber which no longer meets specifications
- Policies for customer notification regarding maintenance
- Process for changing procedures, including customer notification practices

The pricing for dark fiber maintenance should include the annual cost per linear mile for dark fiber maintenance and operations.

NEW BUILD FIBER STATEMENT OF WORK

The Work is defined as:

Project Management

- Selected contractor and its subcontractors will provide all project management to accomplish the installation of all project work as outlined in the Statement of Work.
- Provide engineer(s), certified on selected fiber system specifications and procedures to manage all phases of project as outlined in this proposal. This includes ordering and managing the bill of materials as outlined below, directing and managing cable placement and restoration, directing and managing splicing crews and providing detailed documentation at the end of the project.
- Selected contractor and its subcontractors will develop a project management plan, which will include a milestone chart. The milestone chart will outline any critical path events and then track these with the appropriate agency/organization whether; selected contractor, a selected contractor subcontractor or (Vendor name)

Material Management

- Selected contractor and its subcontractors will provide all material management to ensure that the project remains on track according to the project milestones.
- Selected contractor and its subcontractors will develop in conjunction with selected contractor plants and other suppliers a material management plan.

Property Restoration

- All cable routes, which are plowed, will be restored to as near to original condition as possible.

Install overhead and underground fiber optic cable.

- Bore approximately (Number) feet of fiber optic cable through inner duct/conduit/hand hole system
- Plow approximately (Number) feet of fiber optic cable in accordance with selected contractor installation specifications.
- Install customer approved hand-holes and place marker/locator posts.
- Customer will provide entry/exit holes into buildings for routing cables to distribution frames unless otherwise noted.
- (Vendor name) will provide specific details of cable placement using aerial photography and cad drawings.

Install and Splice Hardware at Head Ends and in the Field

- Install optical hardware and splice field cable to equipment tail at head ends and splice tail to pre-stubbed hardware with SC pigtails.
- Prep closures, cables, fibers and splice fibers at all field locations
- Fiber to fiber fusion splicing of optical fibers at each point including head ends.
- Individual splice loss will be ≤ 0.10 dB for single-mode unless after 3 attempts these values cannot be achieved, then the fibers will be re-spliced until a splice loss within 0.05 dB of the lowest previous attempts is achieved. Splice loss acceptance testing will be based on the fusion splicer's splice loss estimator.

Total Project Splices: (number)

Final Testing

- In addition to splice loss testing, selected contractor will perform end-to-end insertion loss testing of single-mode fibers at 1310 nm and 1550 nm from one direction for each terminated fiber span in accordance with TIA/EIA-526-7 (OFSTP 7). For spans greater than 300 feet, each tested span must test to a value less than or equal to the value determined by calculating a link loss budget.
- Inspect each terminated single-mode fiber span for continuity and anomalies with an OTDR at 1550 nm from one direction in accordance with OTDR operating manual.

Documentation

- Provide final documentation consisting of:
 - o Route "As-Built" Maps/Diagrams
 - o End-to-End Insertion Loss Data
 - o OTDR Traces
 - o Individual Splice Loss Data

General Scope of Work (Description of all routes)

- Placing approximately (Number of Feet) of new (fiber count) SM cable to provide bored fiber connectivity in route that is used to provide connectivity to (Vendor's eligible facility).
- Placing approximately (Number of Feet) of (fiber count) SM underground cable along Wildlife Road from the route to Vendors Eligible Facility to reach (vendor eligible facility).
- Placing approximately (number of feet) of buried (fiber count) SM fiber from an existing handhold at (address) to vendor eligible facility.
- Placing approximately (number of feet) of buried (fiber count) SM fiber from an existing handhold at (address) to vendor eligible facility.
- Placing of associated hand holes, marker posts, locator posts, inner duct, and miscellaneous materials.
- Splicing of fiber optic cables as specified.
- Procuring and Provisioning of hand holes and miscellaneous materials required to accomplish the above.

Bid Specifications

- All fiber will be bid separately by the Owner in addition to turn-key including fiber and construction.
- All splicing shall be by the fusion method.
- All splicing enclosures and Hand Holes shall be of a type to be determined by the owner.
- All Hand Holes shall be (State) DOT approved, 45,000 lb. load rated CDR or comparable enclosures.
- All plowed cables shall be placed at a depth of 36" along roadways and 24" on private property.
- All road and driveway bores shall be at a depth of 36" and will have a 2" inner duct placed within.
- All buried splice locations will be marked with a locator post and a copper ground wire shall be attached to the splice closure/cable sheath.
- Buried marker posts shall be placed every 1500'.
- A warning tape shall be placed 12" above the buried cable.
- All highway shoulders, schoolyards, and ditch lines will be compacted and restored to satisfactory condition.
- All DOT encroachment permits, railroad encroachment permits, and National Park

Service permits shall be submitted by (Vendor) in accordance with the permitting agency requirements.

- The vendor shall be responsible for the payment of any permitting fees and shall be the owner of said facilities.
- Contractor shall furnish an as-built drawing to the owner.
- Contractor shall perform an end-to-end continuity and loss test on each spliced fiber segment and provide the owner with the db loss of each fiber segment.
- Contractor shall be responsible for submitting the appropriate ULOCO locate requests.
- The vendor, the (Vendor) of (name) and the municipalities of (name) and (name) shall grant contractor right of way permission for municipal-owned properties and roadways.
- All cables to buildings shall be fusion spliced within a minimum of 50' of entering a building at a location to be determined by the owner with an existing single mode fiber and terminated at customers rack.
- A minimum of 100' coil of cable shall be left in each Hand Hole/Building for splicing use.
- The (Vendor) shall provide the contractor with secured space to store materials and equipment if needed.

Right-of-Way Acquisition & Permitting

- Vendor is responsible to ensure that all cable routes have approved access & rights-of-way for all proposed cables installations.
- Vendor will provide any information or points of contact to allow selected contractor and its subcontractors to facilitate the route prep "Make-ready" and actual cable installation.
- Vendor is responsible for pulling all required construction permits. Selected contractor and its subcontractors will provide officials at (Vendor) with any information necessary to pull these permits in a timely fashion.

Route Maps

- Vendor is responsible for providing: maps, drawings or aerial photographs of the route.

Termination and Splicing locations

- Vendor will in conjunction with selected contractor designate/decide on all termination locations, whether in-building, outside plant or in customer premises. This will include all hand-hole or manhole locations
- Vendor will in conjunction with selected contractor designate/decide on all field splice locations, in-building splice locations (if applicable), or other splice locations necessary to connect the network.

Cable and Hardware Approval

- Vendor will approve all cable and hardware prior to ordering or installation. Selected contractor will provide any required consultation to assist vendor in this effort.
- Vendor will approve all hand-hole or building entrance hardware prior to ordering or installation. Selected contractor will provide any required consultation to assist vendor in this effort.

Material Delivery, Receipt & Storage

- Vendor will provide warehouse or yard space to accommodate all materials provided by selected contractor to accomplish this project. Vendor will inspect, receive and issue any materials to provide accountability. This will reduce the overall cost to the vendor with no added costs being placed into the proposal to cover the receipt and storage.

Final Inspection

- Vendor will provide at their discretion a person(s) to witness any final testing or

construction verification. The person designated by Vendor will be required to initial/provide acceptance of any results. This person(s)

- will represent Vendor during any and all acceptance testing. This does not relieve the selected contractor from providing agreed upon documentation or absolve the selected contractor of any warranty support.

Communications

- Vendor is responsible for all communications with its customers or other interested parties concerning the proposed construction. Notification of any person(s) affected by this construction is the responsibility of Vendor. Selected contractor will work directly with any persons designated to handle project communications to facilitate awareness and reduce turmoil in the Vendor. Selected contractor will provide consultation to assist in the development of a communications plan as required.

Appendix E: May 2018 Vantage Point Fixed Wireless Study

Warren County’s 2018 broadband study by RiverStreet Networks included a detailed fixed wireless analysis of the County provided by Vantage Point Solutions. This comprehensive study is located at www.warrencountync.com/640/Broadband-Initiative and includes:

- Timelines for deployment
- Propagation maps
- Estimated costs

Respondents who propose a fixed wireless last mile solution will find this study helpful in preparing their responses to this RFP.

Appendix F: Petition Signers in Northern developments of the County near Lake Gaston

Address	Community	E-Mail Addresses
193 Plantation Drive	Buck Spring Planation	yelper55@aol.com
193 Plantation Drive	Buck Spring Planation	barbjf252@aol.com
242 N. Macon Drive	Buck Spring Planation	lastimp4u@yahoo.com
178 S. Macon Dr 27850	Buck Spring Planation	ldhharrell@embarqmail.com
248 N. Macon Dr. 27850	Buck Spring Planation	kmhenry1980@gmail.com
	Buck Spring Planation	jim@jimjubelirer.com
	Buck Spring Planation	jojo312@centurylink.net
111 W. White Tail Drive	Buck Spring Planation	Anne-Marie.Olinger@sas.com
	Buck Spring Planation	michael.schnupper@zoetis.com
	Buck Spring Planation	waldenlkg@icloud.com

	Buck Spring Planation	jolene.williams4848@gmail.com
	Buck Spring Plantation	vicksvice1@hotmail.com
175 Beaver Trail	Buck Spring Plantation	ktaylor752@gmail.com
174 S. Macon Dr. 27850	Buck Spring Plantation	holt.watts@gmail.com
	Coventry	gpgilbertson@aol.com
	Harbor Landing	barneybaxter@embarqmail.com
	Harbor Landing	vdaltorio1@gmail.com
	Harbor Landing	berndap@icloud.com
	Harbor Landing	frittsnrmj@embarqmail.com
	Harbor Landing	joe.schachle@grifols.com
	Harbor Landing	Lisa@RealEstateinChatham.com
286 Harbor Drive	Harbor Landing	vvaleriojr@gmail.com
	Harbor Landing	swhitfield@nc.rr.com
	Harbor Landing	marianne.zeid@att.net
124 Leisure Lane	Lake Gaston Estates	1melisabarbee@gmail.com
152 Yachtsman Drive	Lake Gaston Estates	grizvett98@aol.com
116 Paradise Point	Lake Gaston Estates	becky.hoban@gmail.com
166 Bunker Court	Lake Gaston Estates	dorishoffman@centurylink.net
	Lake Gaston Estates	d-jwein@embarqmail.com
	Lake Gaston Estates	gary.weingarten@gmail.com
118 Paradise Pt.	Lake Gaston Estates	michaelbarrow4@gmail.com
107 Bass Court	Lake Gaston Estates	ken.bulmer@gmail.com
108 Skiers Pt.	Lake Gaston Estates	susanwsmt@hotmail.com
160 Fairway Drive	Lake Gaston Estates	jeannettewalker@ymail.com
136 Bunker Court	Lake Gaston Estates	mikeemory@earthlink.net
120 Lookout Point	Lake Gaston Estates	guertlers@comcast.net
254 N. Holiday Drive	Lake Gaston Estates	rlr3041@yahoo.com
	Nocarva	dmworley@centurylink.net
	Old Bridge Point	al.arrington.bv3z@statefarm.com
	Old Bridge Point	emjaycee.mc@gmail.com

136 Ridgeshore Court	Old Bridge Point	barbaragardella@centurylink.net
	Old Bridge Point	eliasgodoy@nc.rr.com
	Old Bridge Point	reed@thehatfields.com
	Old Bridge Point	skip.jennings@jenningschambersburg.com
	Old Bridge Point	nalivy@gmail.com
	Old Bridge Point	peteheidi@gmail.com
	Old Bridge Point	brettsondergard@gmail.com
138 Ridgeshore Court	Old Bridge Point	tue3@cox.net
103 E. Pointe Drive	Olde Ferry Estates	albimino1@verizon.net
	Olde Ferry Estates	jeff@playspec.com
	Olde Ferry Estates	grizbear44@gmail.com
	Olde Ferry Estates	aconnell819@gmail.com
	Olde Ferry Estates	sdaves@scottdaves.com
	Olde Ferry Estates	edixon@nc.rr.com
	Olde Ferry Estates	rdyer@fmrealty.com
	Olde Ferry Estates	mte@novozymes.com
	Olde Ferry Estates	brandon@evansplumbinginc.net
	Olde Ferry Estates	tgodbolt@hotmail.com
	Olde Ferry Estates	todd.holmes@yahoo.com
273 N. Robinson Dr.	Olde Ferry Estates	hughesbox@gmail.com
	Olde Ferry Estates	akaajk@aol.com
	Olde Ferry Estates	bmcgann@nc.rr.com
	Olde Ferry Estates	bdmcwhinney@gmail.com
	Olde Ferry Estates	paul.mcwhinney@gmail.com
	Olde Ferry Estates	andrea.l.mohamed@gmail.com
	Olde Ferry Estates	stephmurray@gmail.com
	Olde Ferry Estates	dmp.inthewoods@yahoo.com
	Olde Ferry Estates	gpeacock@warrencompany.com
	Olde Ferry Estates	kevin@kylindservices.com
	Olde Ferry Estates	bill@wintech-inc.com
	Olde Ferry Estates	carol_mcwright@yahoo.com
113 Roanoke Circle	Pasture Gate	wbrothers2@gmail.com
115 Roanoke Circle	Pasture Gate	bonniemiller2@mac.com
129 Rocky Branch Circle	Pasture Gate	bob.mcrackan@gmail.com
135 Roanoke Circle	Pasture Gate	-
334 Pasture Gate Road	Pasture Gate	-
102 roanoke Circle	Pasture Gate	smayefskie@gmasupply.com
114 Roanoke Circle	Pasture Gate	randyrwiggins@gamil.com

112 Roanoke Circle	Pasture Gate	annacstephenson@gmail.com
126 Rocky Branch Circle	Pasture Gate	mikeydunmire@gmail.com
117 Roanoke Circle	Pasture Gate	-
252 Pasture Gate road	Pasture Gate	coleman.christine92@yahoo.com
240 Pasyure Gate Road	Pasture Gate	toddferguson@nc.rr.com
108 Castaway Lane	Pasture Gate	larryjh108@gmail.com
108 Roanoke Circle	Pasture Gate	rjames54@nc.rr.com
226 Pasture gate Road	Pasture Gate	jeffj4205@gmail.com
246 Pasture Gate Road	Pasture Gate	Cynthia.Kay2015@gmail.com
130 Rocky Branch Circle	Pasture Gate	Glamp1140@yahoo.com
107 Rocky Branch Circle	Pasture Gate	LindaBrowneNC@gmail.com
111 Roanoke Circle	Pasture Gate	cxcamp@earthlink.net
344 Pasture Gate Road	Pasture Gate	-
128 Rocky Branch Circle	Pasture Gate	stanley_brothers@hotmail.com
109 Castaway Lane	Pasture Gate	-
270 Pasture gate Road	Pasture Gate	2tlparsons@gmail.com
106 Castaway Lane	Pasture Gate	bonnie.the.butterfly@gmail.com
272 Pasture Gate Road	Pasture Gate	????
133 Rocky Branch Circle	Pasture Gate	-
366 Pasture Gate Road	Pasture Gate	JARaub@nc.rr.com
364 Pasture Gate Road	Pasture Gate	cssipe@centurylink.net
264 Pasture gate road	Pasture Gate	kaye.chitsaz@gmail.com
134 Roanoke Circle	Pasture Gate	dianebeverly13@yahoo.com
105 Castaway Lane	Pasture Gate	fanfsumc@aol.com
227 Pasture Gate Road	Pasture Gate	dtuck1@suddenlink.net
369 Pasture gate Road	Pasture Gate	larroatlarge@gmail.com
307 Pasture Gate Road	Pasture Gate	larroatlarge@gmail.com
123 Rocky Branch Circle	Pasture Gate	wheelersteve2006@aol.com
260 Pasture Gate Road	Pasture Gate	tom@ashlandconstruction.com
	Pine Bluff	susanadler@aol.com
	Pine Bluff	fiddlemakermike@gmail.com
	Pine Bluff	Frank1930@verizon.net
	Pine Bluff	briggsc@medimmune.com
	Pine Bluff	mbunting@unca.unc.edu
	Pine Bluff	bccinn@yahoo.com
	Pine Bluff	klelts1@nc.rr.com
	Pine Bluff	benglish.lkg@gmail.com
	Pine Bluff	lieslganes@nc.rr.com
	Pine Bluff	douglassgross@gmail.com

	Pine Bluff	eastcoastinstallers@nc.rr.com
	Pine Bluff	lchestnut1@gmail.com
	Pine Bluff	j_nhoffman@yahoo.com
	Pine Bluff	lfullerh@aol.com
	Pine Bluff	hornburgr@bellsouth.net
	Pine Bluff	ncmarykelly@gmail.com
	Pine Bluff	cledbetter@nc.rr.com
	Pine Bluff	s22comet@centurylink.net
	Pine Bluff	ronrock@nc.rr.com
	Pine Bluff	mawreese@weatherslaw.com
	Pine Bluff	mawreese@aol.com
	Pine Bluff	jwilson2253@nc.rr.com
135 Laurel Bluff	Pine Bluff	r@unc.edu
172 Malcolm Street	River Bend	-
116 Bell Street	River Bend	-
160 Malcolm Street	River Bend	kjboelter56@gmail.com
120 Bell Street	River Bend	-
120 Malcolm Street	River Bend	bradcaplan@mac.com
656 Robinson Ferry Road	River Bend	-
188 Bell Street	river bend	-
677 Robinson Ferry Road	River Bend	-
194 Bell Street	River Bend	mfinkelstein@mac.com
639 Robinson Ferry Road	River Bend	-
128 Mill Dam Court	River Bend	jan@tjgutierrez.com
164 Malcolm Street	River Bend	mjhingston@gmail.com
140 Malcolm Street	River Bend	whodges1230@gmail.com >
170 Malcolm Street	River Bend	-
108 Lyons Court	River Bend	amhudgins@embarqmail.com
664 Robinson Ferry Road	River Bend	bjacksonatkg@yahoo.com
192 Bell Street	River Bend	-
	River Bend	carter@carterandjones.com
Malcolm Street	River Bend	-
110 Bell Street	River Bend	-

188 Malcolm Street	River Bend	sarah.myers@duke.edu
	River Bend	arichardson@hwglaw.com
168 Malcolm Street	River Bend	-
126 Malcolm Street	River Bend	-
166 Malcolm Street	River Bend	-
111 Lyons Creek	River Bend	-
	River Bend	stevenskh93@gmail.com
128 Malcolm Street	River Bend	-
ADDRESSES ADJOINING RIVERBEND		-
579 Robinson Ferry Road		-
582 Robinson Ferry Road		-
583 Robinson Ferry Road		-
590 Robinson Ferry Road		-
598 Robinson Ferry Road		jrmlakers@gmail.com
615 Robinson Ferry Road		-
616 Robinson Ferry Road		-
628 Robinson Ferry Road		-
629 Robinson Ferry Road		-
632 Robinson Ferry Road		-
633 Robinson Ferry Road		m.hart58@yahoo.com
637 Robinson Ferry Road		-
639 Robinson Ferry Road		-
663 Robinson Ferry Road		-
673 Robinson Ferry Road		-
STEWART PAYNE		-
114 Stewart Payne		-
122 Stewart Payne		-
123 Stewart Payne		-
128 Stewart Payne		-
HOLLY TRAIL		-
128 Holly Trail Road		-
144 Holly Trail Road		-

166 Holly Trail Road		-
170 Holly Trail Road		-
173 Holly Trail Road		-
174 Holly Trail Road		-
180 Holly Trail Road		-
184 Holly Trail Road		-
185 Holly Trail Road		-
188 Holly Trail Road		-
191 Holly Trail Road		lkgmadmax@gmail.com
198 Holly Trail Road		-
203 Holly Trail Road		-
208 Holly Trail Road		-
ROBINSON FERRY ESTATES		-
123 S. Robinson Dr.	Robinson Ferry Estates	edieb1024@yahoo.com
	Robinson Ferry Estates	ehendren1412@gmail.com
	Robinson Ferry Estates	beckynewtonis@frontier.com
SIX POUND AREA		-
	Six Pound Creek	pscamacho@centurylink.net
	Six Pound Creek	joyce-capps@outlook.com
	Six Pound Creek	claire@fullscalesolutions.com
	Six Pound Creek	DJEVET@aol.com
	Six Pound Creek	gary_marg@hotmail.com
	Six Pound Creek	PeggyM@qdcinc.com
	Six Pound Creek	pmella@dynalectric-dc.com
	Six Pound Creek	chris@pointerealtygroup.com
	Six Pound Creek	randall@lakegaston.com
	Six Pound Creek	beverlysanthouse@gmail.com
158 Old Mill Road	Six Pound Creek	clarav320@aol.com
	Six Pound Creek	brendakwall@aol.com
	Six Pound Creek	eetcg@verizon.net
293 Rocky Point Road	Six Pound Creek	rsoapoperamom@aol.com
290 Rocky Point Road	Six Pound Creek	bacurl51@gmail.com
133 Overland Trail	Six on Six	jameshemby606@gmail.com

130 Overland Trail	Six on Six	darennolan@bellsouth.net
	Summer Place	mmcrieger@gmail.com
	Thornton Place	craiganderson757@gmail.com
	Thornton Place	bbarkdmd@gmail.com
	Thornton Place	rebecca59b@me.com
	Thornton Place	tbunnone@yahoo.com
	Thornton Place	tbunnone@yahoo.com
	Thornton Place	jdchaffee80@yahoo.com
	Thornton Place	gglenncoates@gmail.com
	Thornton Place	dicarloja@verizon.net
	Thornton Place	jldickens@nc.rr.com
	Thornton Place	jdorton@plumbing911.com
	Thornton Place	rshammond3123@gmail.com
	Thornton Place	cpharris@nc.rr.com
	Thornton Place	kindawnhen23@gmail.com
	Thornton Place	meredithjoyner@gmail.com
	Thornton Place	randy_langston@hotmail.com
	Thornton Place	buck.martin@partners.mcd.com
	Thornton Place	dmiller@tobaccorag.com
	Thornton Place	grichardv8@aol.com
	Thornton Place	dsmith71@embarqmail.com
	Thornton Place	joshstein@nc.rr.com
	Thornton Place	macon@gastonpointe.com
	Thornton Place	chockynettie@gmail.com
	Thornton Place	ma_whiting@verizon.net
	Timbuctu	slk444@gmail.com
	West Winds	sbedsole001@gmail.com
	West Winds	chdoc@yahoo.com
208 Cross Winds Circle	West Winds	dawnflump@aol.com
162 West Winds Road	West Winds	jdowless@outlook.com
	West Winds	rehall5@cox.net
136 Clark Road	West Winds	janetlenahan@gmail.com
	West Winds	ndlloyd@gmail.com
	West Winds	gmitchell002@gmail.com
	West Winds	nanneydavid@hotmail.com
	West Winds	rmspowell@gmail.com
246 West Winds Road	West Winds	cragland5@gmail.com
	West Winds	sfscarvey@gmail.com
	West Winds	tskelton12@gmail.com

130 Clark Road	West Winds	jennmoriarty@yahoo.com
350 West Winds Road	West Winds	gordons134@yahoo.com
100 West Winds Road	West Winds	jacksoncv@embarqmail.com
135 Clark Road	West Winds	maryjune28@gmail.com
330 West Winds Road	West Winds	julie.paris@capitalone.com
102 Cross Winds Circle	West Winds	jmwoodward@aol.com
112 West Winds Road	West Winds	tellgcoil@gmail.com
	Whispering Pines	davegardner1120@gmail.com
	Whispering Pines	wsolari@embarqmail.com
202 Ruby Lane, 27850	Braswell Estates	retirednluvnit@embarqmail.com
148 Par Drive		williamdoyle239@yahoo.com
128 Mockingbird Lane 27850	Jacks Landing	jejordan59@gmail.com
106 Riverside Court	Eatons Ferry Estates	rickbarre@gmail.com
153 Limer Town Road, 27589	Bridle Creek	kaysha.williams23@gmail.com
1230 NC Hwy 58	Warrenton	gwenharris0629@gmail.com
1222 NC Hwy 58	Warrenton	harriss06@alumni.ecu.edu
1261 NC Hwy 58	Warrenton	patrinaly@yahoo.com
1251 NC Hwy 58	Warrenton	chocolatestorm40@icloud.com
112 Old Joshua Drive	Warrenton	shaquitajovon7@icloud.com
642 Cole Farm Road	Warrenton	elizabeth.paynter82@gmail.com
664 Cole Farm Road	Warrenton	nancytunstall@gmail.com
668 Cole Farm Road	Warrenton	tunstallm@gmail.com
219 Warren Plains Road	Warrenton	-
280 Robinson Ferry Road	Macon	spelfrey@gmail.com
191 Holly Trail Road	Macon	lkgmadmax@gmail.com
105 N. Ridge Rd.	Gaston Height 27850	nancyl1768@embarqmail.com
113 Blue Bird Court	Jacks Landing	anniwrightnc@gmail.com
134 Mockingbird Lane	Jacks Landing	kellfleshood@gmail.com
	Turkey Run	mitchellcharj@gmail.com
138 Wesley Drive	Norlina	powelmo@icloud.com
251 Songbird Court	Jacks Landing	pestep55@gmail.com
805 Pigeon Path	Littleton	rc.woolfenden@verizon.net
201 Greenbriar Road	Littleton	rcmayer@ncsu.edu